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EXAMINER

KERNS, KEVIN P

ART UNIT PAPER NUMBER

1725

DATE MAILED: 10/15/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/018,174	Applicant(s) JOHANSEN ET AL.	
	Examiner Kevin P. Kerns	Art Unit 1725	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

P riod for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 August 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11-22 is/are rejected.
- 7) ☒ Claim(s) 11, 15 and 21 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 18 August 2003 is: a) ☒ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. The abstract of the disclosure is objected to because "reservior" should be changed to "reservoir" in the 2nd line. Correction is required. See MPEP § 608.01(b).
2. The (substitute) disclosure is objected to because of the following informalities: on page 1, last line, "mold" should be changed to "molds". On page 3, 1st line, the 1st instance of "Fig." should be deleted. On page 3, 6th line, "is" should be added before "constructed". On page 6, 6th line from the end, it is believed that the term "polymetylmecacrylat" is a European (German?) name for "polymethyl-methacrylate" and should be changed appropriately. Appropriate correction is required.

Claim Objections

3. Claims 11, 15, and 21 are objected to because of the following informalities: in claim 11, 4th line from the end of the claim, "a" should be changed to "at" before "least". In claims 15 and 21, 2nd line in both claims, "proved" should be changed to "provided". Appropriate correction is required.

Double Patenting

4. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA

Art Unit: 1725

1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

5. Claims 11 and 17 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 9 and 14, respectively, of copending Application No. 10/009,690 in view of Foye (US 3,556,197).

The claims share identical elements (mold housing having a plurality of channels, permeable wall material, at least one annular slit/nozzles, and an insulating plate provided with through holes), with the exception of the restricting elements between the permeable wall and an interior wall of the mold housing.

However, Foye discloses an apparatus (horizontal continuous casting of round billets 13) for lubricating a molten metal mold, in which the apparatus includes a reservoir 10 of molten metal, mold assembly 8, mold section 12, plate element 11, annular gasket 20, a lubricating device 23 having upper and lower (sectors) chambers 18,27 (of the annuli) and adjustable valves 17,26 to control the circumferential supply of oil around the mold in the region of the plate element 11, and secondary water sprays (abstract; column 1, lines 12-59; column 2, lines 36-71; column 3, lines 1-75; column 4, lines 1-14 and 34-41; and Figures 1-16). In another embodiment, annular gasket 35 has six radial slots 36 (channels that form and divide a plurality of sectors) in which the

Art Unit: 1725

flow is controlled by valves (column 4, lines 72-75; column 5, lines 1-19 and 56-58; and Figures 6-8). One of ordinary skill in the art would have recognized that the plugs or similar restrictions, as the applicants' claim, would be analogous to the plurality of valves taught by Foye, as in each instance the supply of oil would be "differentiated" around the circumference of the mold cavity for more uniform lubrication/cooling.

This is a provisional obviousness-type double patenting rejection.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation

Art Unit: 1725

under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

9. Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Foye (US 3,556,197) in view of either Kittilsen et al. (US 5,915,455) or Steen et al. (US 5,678,623).

Foye discloses an apparatus (horizontal continuous casting of round billets 13) for lubricating a molten metal mold, in which the apparatus includes a reservoir 10 of molten metal, mold assembly 8, mold section 12, plate element 11, annular gasket 20, a lubricating device 23 having upper and lower (sectors) chambers 18,27 (of the annuli) and adjustable valves 17,26 to control the circumferential supply of oil around the mold in the region of the plate element 11, and secondary water sprays (abstract; column 1, lines 12-59; column 2, lines 36-71; column 3, lines 1-75; column 4, lines 1-14 and 34-41; and Figures 1-16). In another embodiment, annular gasket 35 has six radial slots 36 (channels) in which the flow is controlled by valves (column 4, lines 72-75; column 5, lines 1-19 and 56-58; and Figures 6-8). One of ordinary skill in the art would have recognized that the plugs or similar restrictions, as the applicants' claim, would be analogous to the plurality of valves taught by Foye, as in each instance the supply of oil would be "differentiated" around the circumference of the mold cavity. Foye does not

Art Unit: 1725

specifically disclose the use of a supply of gas in the horizontal continuous casting process.

However, Kittilsen et al. disclose an apparatus for horizontal casting of light metals, in which the apparatus includes a supply of molten metal M, a mold 10 with multiple housings and an oil ring 19 with oil supply channels 20 to lubricate the mold, a transition ring of insulating porous refractory material 21, gas supply channels 22, and separate primary and secondary cooling water circuits (11,12), such that the gas supply channels 22 are advantageous for supplying a protective gas to provide for a smooth ingot without surface discoloration (abstract; column 1, lines 55-67; column 2, lines 1-44; column 3, lines 7-67; column 4, lines 1-67; column 5, lines 1-3; and Figures 1 and 2).

In addition, Steen et al. disclose continuous casting equipment of aluminum ingots or billets, in which the equipment includes a supply of metal 11, casting mold 1 having a collar made of aluminum or steel, and two permeable, separate rings/wall elements (12,13) to supply oil and gas, respectively, such that the elements for the supply of the oil and gas may be optimized independently to sustain the best conditions when performing casting operations, resulting in a layer of oil and/or gas between the metal and the mold wall to prevent their direct contact (abstract; column 2, lines 30-45; column 3, lines 25-42 and 51-67; column 4, lines 1-32; and Figures 1 and 2).

It would have been obvious to one of ordinary skill in the art at the time the applicants' invention was made to modify the horizontal continuous casting apparatus of Foye, by adding the gas supply of either Kittilsen et al. or Steen et al., in order to supply

a protective gas to provide for a smooth ingot without surface discoloration (Kittilsen et al.; column 3, lines 30-38), and to sustain the best conditions when performing casting operations, resulting in a layer of oil and/or gas between the metal and the mold wall to prevent their direct contact (Steen et al.; column 1, lines 11-16; and column 2, lines 39-43).

Response to Arguments

10. The examiner acknowledges the applicants' amendment received by the USPTO on August 18, 2003. The proposed drawing corrections are approved by the examiner. The applicants have submitted a substitute specification and a revised abstract, but these documents continue to have minor informalities (see paragraphs 1 and 2 above). Despite the applicants' drafting of new claims, new grounds of double patenting rejections are made in view of the amendments to the specified claims in the application (see paragraph 5 above). Prior rejections under 35 USC 112, 2nd paragraph, have been overcome by the claim amendments. Claims 1-10 have been cancelled and replaced with new claims 11-22, and claims 11, 15, and 21 are now objected to. Claims 11-22 are currently under consideration in the application.

11. Applicant's arguments filed August 18, 2003 have been fully considered but they are not persuasive.

With regard to the applicants' arguments on pages 9-11 of the amendment, the examiner respectfully disagrees with the applicants' assertion regarding the double

patenting rejections in the middle of page 9 of the amendment. It is noted above that the grounds of double patenting rejection (now in view of Foye) have been set forth due to claim amendments that add new features and/or overcome prior 35 USC 112, 2nd paragraph rejections.

Regarding pages 10 and 11 of the amendment, although Foye lacks the use of a supply of gas in the horizontal continuous casting process, the other structural limitations (including the "sectors" as discussed above) are present in the disclosure of Foye, and the Kittilsen et al. and Steen references (individually) are respectfully asserted to remedy the deficiencies of Foye. For example, the Kittilsen reference discloses oil/gas provided to the mold (column 3, lines 18-38; and Figure 2). Furthermore, the applicants' statement of gas ascending to create a gas pocket at the top of the mold, as provided in the applicants' arguments, is not commensurate to the claims. Also on page 11, although Steen does not set forth a "horizontal" continuous casting device, the preamble to claims 9 and 14 should be changed to "Horizontal continuous casting equipment" (or an equivalent) to clearly set forth the structure of the apparatus, as Steen contains the substructures similar to that of the applicants' horizontal casting device. Furthermore, the gas ascending to create a gas pocket at the top of the mold, as provided in the applicants' arguments (regarding Steen, which indeed has separate channels), is not commensurate to the claims.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., a structural limitation that would prevent a gas pocket from forming) are not recited

Art Unit: 1725

in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

In response to applicant's arguments, the recitation "Equipment for continuous, horizontal casting of metal/aluminum" has not been given patentable weight because the recitation occurs in the preamble (see proposed revisions in the discussion of Steen above). A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The Anderson reference is also cited to show related art.

13. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

Art Unit: 1725

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dr. Kevin P. Kerns whose telephone number is (703) 305-3472. The examiner can normally be reached on Monday-Friday from 8:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Dunn can be reached on (703) 308-3318. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

KPK
kpk
October 2, 2003


ALEXANDRA ELVE
PRIVACY EXAMINER